

FILE NOTATIONS

Entered in NID File

Entered On S R Sheet

Location Map Pinned

Card Indexed

IWR for State or Fee Land

Checked by Chief

Copy NID to Field Office

Approval Letter

Disapproval Letter

COMPLETION DATA:

Date Web Completed 6-4-67

EW WW TA

EW OS PA ✓

Location Inspected

Band released

State or Fee Land

LOGS FILED

Drawing Log 6-21-67

Electric Logs (No.) 3

E I EV GK GRN WWS
Lst Mid Sonic Other

① Radioactivity Log
② Density Log

dpc
1-29-91

Mr Don Dugley phone requesting
this well confidential 4-7-67

1980
1983

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

C-2
F-R

1a. TYPE OF WORK
DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL
OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR
Rosen Oil Company

3. ADDRESS OF OPERATOR
139 N. Mead Street, Wichita, Kansas 67202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface **SE.NE.SW. Sec.27, T.27 S., R.19 E., S. L. M.**
At proposed prod. zone **2045' from W-line & 1613' from S-line of Sec. 27** *207' to for south*

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
32 miles sw of Moab

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
600 feet

16. NO. OF ACRES IN LEASE
2025 Ac.

17. NO. OF ACRES ASSIGNED TO THIS WELL
40 Acres

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
no other well 6500'

19. PROPOSED DEPTH
6500'

20. ROTARY OR CABLE TOOLS
Rotary Tools

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
6120' grd.

22. APPROX. DATE WORK WILL START*
Dec. 10, 1966

5. LEASE DESIGNATION AND SERIAL NO.
U-0141867

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Grays Pasture

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT
Grays Pasture No. 1 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec.27, T.27 S., R.19 E. S. L. M.

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 1/4"	10 3/4"	32#	Appr. 250'	80 sacks
8 3/4" hole below surface casing				

It is planned to drill a well at the above location to test the oil and gas potential of the Mississippian formation and all other formations above the Mississippian. The well will be drilled to a depth of 6500', 200 feet into the Mississippian, or to commercial production, whichever is at the lesser depth. The well will be drilled with rotary tools using both air and mud as circulating mediums. It is planned to set an intermediate string of casing (7-in.) thru the water zones- probably at about 2900'. The anticipated section and depths to tops is as follows: Navajo-surface; Kayenta-150'; Wingate-300'; Chinle-770'; Shinarump-1100'; Moenkopi-Cutler-1150'; White Rim-1610'; Organ Rock-1720'; Rice-2510'; Hermosa-2860'; Salt-4060'; Pinkerton Trail-5570'; Molas-5920'; and Mississippian-6000'. In the event of production, 5 1/2" casing will be run and 2 1/4" tubing installed.

43-037-20175

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED H. Row Jingley TITLE Consulting Geologist DATE Dec. 7, 1966

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

LOCATION PLAT

FOR

ROSEN GRAY'S PASTURE NO. 1 WELL

SE, NE, SW, SEC. 27

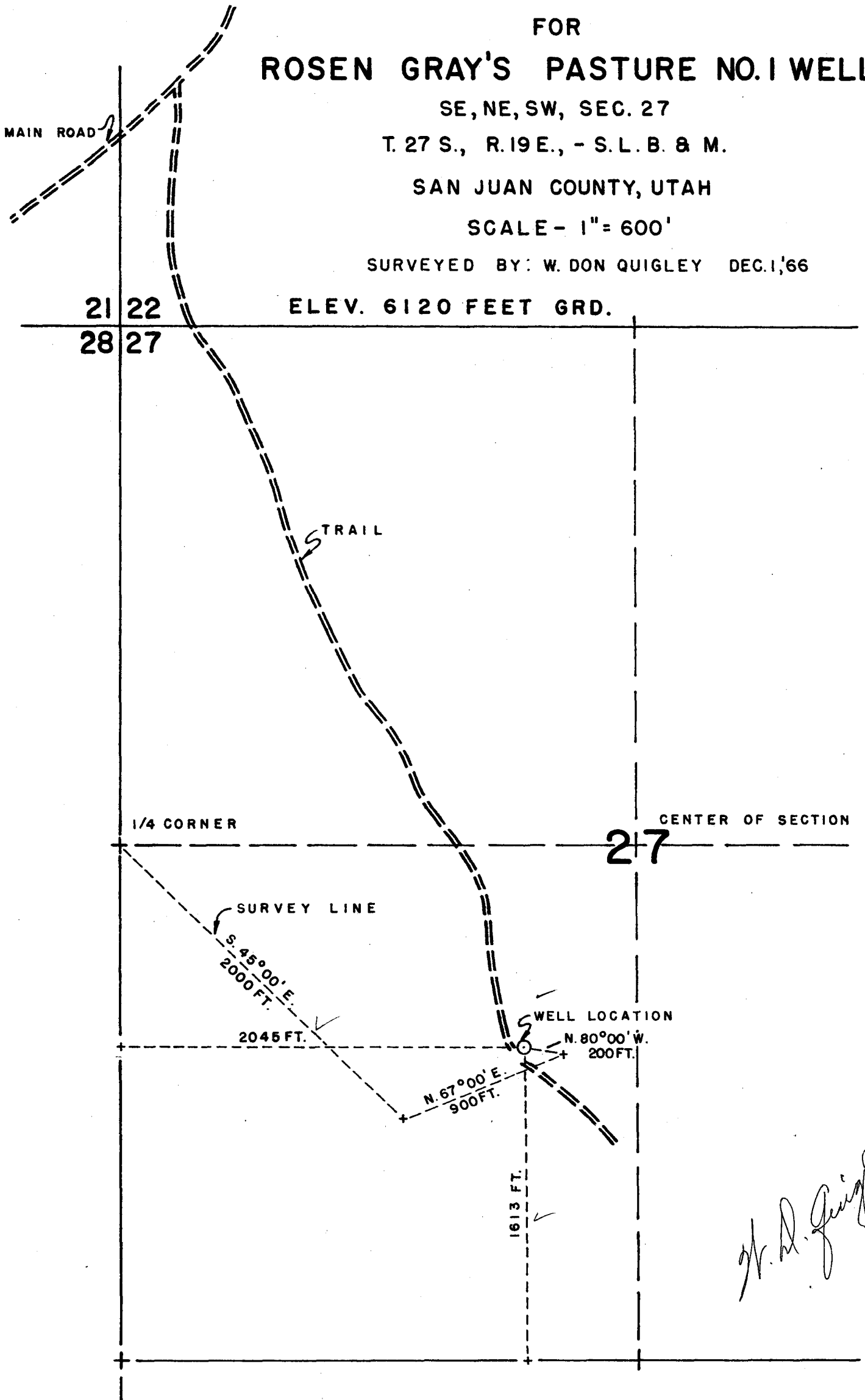
T. 27 S., R. 19 E., - S. L. B. & M.

SAN JUAN COUNTY, UTAH

SCALE - 1" = 600'

SURVEYED BY: W. DON QUIGLEY DEC. 1, '66

ELEV. 6120 FEET GRD.



W. D. Quigley

W. DON QUIGLEY

CONSULTING GEOLOGIST
PETROLEUM - MINING WORK

323 NEWHOUSE BLDG. - SALT LAKE CITY, UTAH 84111

December 8, 1966

Re: Request for Spacing
Exception

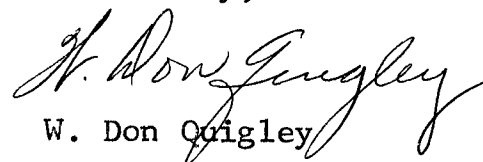
Mr. Jack Feight
Secretary Oil and Gas Conservation Commission
State of Utah
348 East South Temple
Salt Lake City, Utah

Dear Mr. Feight,

Request is hereby made for an exception to the normal required distance from a subdivision line in the location of the Rosen Oil Company Grays Pasture No.1 well in Section 27, T.27 S., R. 19 E., San Juan County, Utah, for reasons of topographical and geological conditions. A rock outcrop and depression prevent the location being moved farther to the north.

The ownership of the oil and gas leases within a radius of 600 feet is common with the ownership of the oil and gas leases under the proposed location. The E $\frac{1}{2}$ of Section 27 is withdrawn lands and is not under lease to anyone.

Sincerely,


W. Don Quigley

December 9, 1966

Rosen Oil Company
139 North Mead Street
Wichita, Kansas 76202

Re: Well No. Grays Pasture No. 1,
Sec. 27, T. 27 S., R. 19 E.,
San Juan County, Utah.

Gentlemen:

Insofar as this office is concerned, approval to drill the above mentioned well on said unorthodox location is hereby granted in accordance with Rule C-3(c). ✓

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL, Chief Petroleum Engineer
HOME: 277-2890 - Salt Lake City, Utah
OFFICE: 328-5771 - 328-5772 - 328-5773

This approval terminates within 90 days if the well has not been spudded-in within said period. Enclosed please find Form OGCC-8-X, which is to be completed whether or not water sands (aquifers) are encountered while drilling. Your cooperation with respect to completion this form will be greatly appreciated.

The API number assigned to this well is 43-037-20175 (see Bulletin D12 published by the American Petroleum Institute).

Very truly yours

OIL & GAS CONSERVATION COMMISSION

CLEON B. FEIGHT
EXECUTIVE DIRECTOR

CBF:sc

cc: W. Don Qaigley

Jerry Long, District Engineer
Box 1809
Durango, Colorado

INDUSTRIAL COMMISSION OF UTAH

RIG SAFETY INSPECTION

Name of Company ROSEN OIL COMPANY Date January 19, 1967
Name of Drilling Contractor WILLARD PEASE DRILLING COMPANY
Well Name and Number Grays Pasture #1 Rig No. 4 Field Wildcat
(Big Flat Area)
Section 27 Township 27 S Range 19 E
County San Juan County Driller Bob Davis

Number Present four Toolpusher Lee Pease (Not on location)

Date of last lost-time accident Not for over four months.

Items causing lost-time accidents that have been corrected, or which need to be corrected.

NONE

Accidents or near accidents that have recently occurred on rig.

NONE

Any new employees in crew no Have instructions been given the new crew members Yes
(All had experience)

	(Good) yes	(Poor) no
Escape Line and Slide		<u>X (1)</u>
Ladders, Side Rails, Steps		<u>X (2)</u>
Walk-Around Floor and Railing	<u>X</u>	
Engines Guarded	<u>X</u>	
Rotary Drive Guard	<u>X</u>	
All High Pressure Fittings in High Pressure Lines	<u>X Working OK @ 400 psi - Tested @ 3500 psi</u>	
Fire Control Available	<u>X</u>	
General Housekeeping	<u>X</u>	
Hard Hats		<u>X (3)</u>
First Aid Kit	<u>X Needs to be replenished</u>	
Blowout Preventer		<u>X (4)</u>
Cellar Clean, No Debris	<u>X</u>	
Cathead	<u>X</u>	
Safety belts available	<u>X</u>	

Unsafe practices that might cause a mishap, and recommendations made for a safe method of doing the job. Note remarks.

Drillers, Toolpushers or Drilling Superintendents reactions Very cooperative.

Remarks 1. Escape line up but no slide. 2. Pipe rams on hydrolic blowout preventer would not close due to freezing conditions. Driller stated he would restore to working condition as soon as possible. Mr. Quigley was present to observe test. 3. Landing to dog house needs side rails. Will put one up next time welder is on location. 4. Driller conducting operations without hard hat on. NOTE: Driller stated he had no complaints

Deputy Inspector UTAH OIL & GAS CONSERVATION COMMISSION - PAUL W. BURCHELL

with regard to working conditions and rig equipment.

January 20, 1967

Willard Pease Drilling Company
Attn: Willard Pease
Box 748
Grand Junction, Colorado

Re: Rosen Oil Company
Grays Pasture #1
Sec. 27, T. 27 S., R. 19 E.,
San Juan County, Utah

Dear Mr. Pease,

On January 19, 1967, the Commission's Chief Petroleum Engineer made an inspection of your rig No. 4 which was drilling at the above named well site. Results of this safety inspection can be observed from the enclosed data sheet. Of the few discrepancies that were noted, the most serious was related to the hydrolic blowout preventer. It appears that the blowout system could not be activated properly.

The Operator reported that they were planning to drill with air to evaluate the hydrocarbon potential of the Cane Creek member and the Mississippian Formation. In view of this drilling procedure, and the tremendous high pressures that can be found in these particular zones, it is requested that you have the blowout equipment working in a satisfactory manner before drilling out from the base of the proposed intermediate string. Please call this office collect (328-5771) as soon as the problem has been taken care of.

If this office does not hear from you by Thursday, January 26, 1967, we will recommend that the Industrial Commission take the necessary legal action to suspend drilling operations.

Very truly yours,

OIL & GAS CONSERVATION COMMISSION

GLENN B. FREIGHT
EXECUTIVE DIRECTOR

CBF:hh

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

Salt Lake City 14, Utah

REPORT OF OPERATIONS AND WELL STATUS REPORT

State Utah County San Juan Field or Lease Wildcat

The following is a correct report of operations and production (including drilling and producing wells) for

January, 1967
Agent's address 323 Newhouse Bldg Company Rosen Kil Company
Salt Lake City, Utah Signed H. Don Gingley
Phone 359-3525 Agent's title

Phone 354 3525 Agent's title Director

State Lease No. Federal Lease No. U-0141867 Indian Lease No. Fee & Pat. ☐

Sec. & ¼ of ¼	Twp.	Range	Well No.	*Status	Oil Bbls.	Water Bbls.	Gas MCF's	REMARKS (If drilling, Depth; if shut down, Cause; Date & Results of Water Shut-Off Test; Contents of Gas; and Gas-Oil Ratio Test)
SE-NE-SW								
Sec 27	27S	19E.						Well was spudded on 31 December 66 Drilled to a depth of 4039' on Jan 31, 1967. Set 3200 feet of 7" casing at 3199' D.F. and cemented with 40 sacks of cement for intermediate string.

NOTE: Report on this form as provided for in Rule C-22. (See back of form.)

FILE IN DUPLICATE

*STATUS: F-Flowing P-Pumping GL-Gas Lift
SI-Shut In D-Dead
GI-Gas Injection TA-Temp. Aban.
WI-Water Injection

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

Salt Lake City 14, Utah

REPORT OF OPERATIONS AND WELL STATUS REPORT

State Utah County San Juan Field or Lease Wildcat

The following is a correct report of operations and production (including drilling and producing wells) for

February, 1947

Agent's address 323 Newhouse Bldg Company Rosen Oil Company
Salt Lake City, Utah Signed H Don Gungley

Phone 359-3575 Agent's title Cons. Prod.

State Lease No. Federal Lease No. U-0141867 Indian Lease No. Fee & Pat. ☐

Sec. & ¼ of ¼	Twp.	Range	Well No.	*Status	Oil Bbls.	Water Bbls.	Gas MCF's	REMARKS (If drilling, Depth; if shut down, Cause; Date & Results of Water Shut-Off Test; Contents of Gas; and Gas-Oil Ratio Test)
SE-NE-SW.								
Sec. 27	27S	19E						Well was drilled from 4039' to 7268' during February.
								One D.S.T. was run from 5203 to 5295'. No recovery due to misrun. Tool plugged with loss-circulation material.

NOTE: Report on this form as provided for in Rule C-22. (See back of form.)

FILE IN DUPLICATE

*STATUS: F-Flowing P-Pumping GL-Gas Lift
SI-Shut In D-Dead
GI-Gas Injection TA-Temp. Aban.
WI-Water Injection

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-0141867

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO. **Chas Pasture**

10. FIELD AND POOL, OR WILDCAT

11. SEC., T., R., OR BLK. AND
SURVEY OR AREA**Sec. 27, T.27 S., 19 E.**

12. COUNTY OR PARISH

San Juan 13. STATE**Utah**

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL ☐ WELL ☒ GAS ☐ WELL ☐ OTHER

2. NAME OF OPERATOR

3. ADDRESS OF OPERATOR

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface**SE.NE.SW. of Sec. 27, T.27 S., R.19 E., S.L.M.
2045' fr. W-line & 1613' fr. S-line - Sec 27**

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6120' grd & 6132' D.F.

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) **Operations** ☒REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☐(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Well was drilled to a total depth of 7730' on 16 March after which several drill-stem tests were made.

D.S.T. #6 Mar. 17 7645'-7735' Open 1 hr. Shut-in 45 min. Recovered 4800' of black sulphur and brackish water.

I.F.P.-5340, F.F.P.-24000, Shut-in pre.-2850'

D.S.T. #7 Mar. 18 6100'-6288' Open 50 min., Shut-in 30 min. Recovered 140' of drilling fluid I.F.P.- 810, F.F.P.-2700, no shut-in pres.

D.S.T. #8 Mar. 18 5800'-5389' Open 45 min., shut-in 30 min. Recovered 20 ft. drilling fluid I.F.P.- 1080, F.F.P.- 1350, no shut-in press.

Ran 232 jts of 4 1/2", 11.600, casing and landed at 7441' D.F.; and cemented with 232 sacks of cement. Plug down at 7:00 P.M. on Mar. 19.

Plan to perforate and test certain favorable zones in the Navajo and Pinkerton Trail Formations. Bottom of hole was plugged with 60 sacks of cement before pipe was run (7735'-7485').

Log tops as follows:

Navajo- Surface; Kayenta-375'; Wingate-492'; Chinle-985'; Shinarump-1360'; Moenkopi-1422'; White Rim-1900'; Organ Rock-1960'; Rico-2760'; Hermosa-3190'; Salt-4740'; Pinkerton Trail-7150'; Molas-7482'; and Mississippian-7557'. It is planned now to perforate and test.

18. I hereby certify that the foregoing is true and correct

SIGNED

W. Ron Gungley

TITLE

Cons. Geol.

DATE

Mar 3, 1967

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 43-E356.5
Approval expires 12-31-67
LAND OFFICE *Salt Lake City*
LEASE NUMBER *4-2141867*
UNIT _____

LESSEE'S MONTHLY REPORT OF OPERATIONS

State *Utah* County *San Juan* Field *Kildcat*
The following is a correct report of operations and production (including drilling and producing wells) for the month of *March*, 19*67*.
Agent's address *323 Newhouse Bldg. Salt Lake City, Utah* Company *Rosen Rub Company*
Signed *H. W. Higley*
Phone *359-3575* Agent's title *Gen. Mgr.*

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATE PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (in thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
SE-NE-SW.										
Sec. 27	27S	19E	#1							Well was drilled from 7268' to 7735' during March 1967. The Mississippian was topped at 7538'. A D.S.T. #2 was run from 7542-7645', 720ft of fluid (520 ft. of gas-cut brackish water & 200' of black sulphur water) was recovered in 1 1/2 hrs. Shut-in pressure was 2163*. D.S.T. #3 was taken over 7284-7352 with no recovery. D.S.T. #4 - 6980' to 7048' - Rec. 60 feet of oil & gas cut mud shut-in pressure - 256* & building after 45 min. D.S.T. #5 - 6100-6288 - Muesum-tool was intermittently plugging. - Recd. of D.S.T.s & casing description is on "sundry notice form."

NOTE.—There were _____ runs or sales of oil; _____ M cu. ft. of gas sold;

_____ runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

W. DON QUIGLEY

CONSULTING GEOLOGIST
PETROLEUM - MINING WORK

323 NEWHOUSE BLDG. - SALT LAKE CITY, UTAH 84111

April 8, 1967

Mr. Cleon Feight
Oil and Gas Conservation Commission
348 East South Temple
Salt Lake City, Utah

Dear Mr. Feight,

As per our telephone conversation yesterday, we wish to keep all information confidential on the Rosen-Grays Pasture No.1 well in T.27 S., R.19 E. in San Juan County. I failed to make this clear when I filed the reports. I will send you notice when the information can be released. Unfortunately, I'm afraid the damage has already been done.

Sincerely,

W. Don Quigley
W. Don Quigley

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN THE MANNER
(Other instructions on re-
verse side)State
Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

B-0141367

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Grays Pasture

9. WELL NO.

#1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLM. AND
SURVEY OR AREASec. 27, T 27S., R 19E.
S.L.M.

12. COUNTY OR PARISH 13. STATE

San Juan

Utah

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL WELL ☒ GAS WELL ☐ OTHER ☐

2. NAME OF OPERATOR

Rosen Oil Company

3. ADDRESS OF OPERATOR

139 W. Mead St., Wichita, Kansas 67202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surfaceSE. NE. SW. Sec. 27, T 27S., R 19E., S.L.M.
2045' from W-line, and 1613' from S-line.

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6120' grd., and 6132' D.F.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(Note: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-
nent to this work.)*

After perforating numerous zones and testing them by swabbing and later fracture treatment without success; It has been decided to abandon subject well. The perforated zones and tests will be thoroughly described in a subsequent report. It is planned to plug the well in the following manner:

1. Install a 40 sack plug from 6250' to 5950' covering the lower perforations.
2. Shoot-off and pull 4 1/2" casing at about 4800', if possible, which is the top of the salt. Install a 25 sack plug at this point 4800' to 4700'.
3. Pull casing out to 3300' and install a 30 sack plug from 3300' to 3100' covering bottom of intermediate casing. Leave rest of hole open for water well for Park service. This plan was verbally approved by Mr. Ed Smith on May 31, 1967.

18. I hereby certify that the foregoing is true and correct

SIGNED

H. Don Gungley

TITLE Consulting Geologist

DATE June 3, 1967

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5

5. LEASE DESIGNATION AND SERIAL NO.

U-0141867

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Grays Pasture

9. WELL NO.

#1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY
OR AREASec. 27, T 27S, R 19E.
S.L.M.12. COUNTY OR
PARISH

San Juan

13. STATE

Utah

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other _____b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____

2. NAME OF OPERATOR

Rosen Oil Company

3. ADDRESS OF OPERATOR

139 N. Mead St., Wichita, Kansas 67202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface SE NE SW - Sec. 27, T 27S, R 19E, S.L.M.

At top prod. interval reported below 2045' fr. W-line and 1613' fr. S-line

At total depth

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED 16. DATE T.D. REACHED 17. DATE COMPL. (Ready to prod.) 18. ELEVATIONS (DF, REB, RT, GR, ETC.)* 19. ELEV. CASINGHEAD

31 Dec. 66 Mar. 16, 1967 D & A - June 4, 1967 6120' grd. and 6132' D.F. 6121'

20. TOTAL DEPTH, MD & TVD 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 25. WAS DIRECTIONAL SURVEY MADE

7235'

Rotary

NO

26. TYPE ELECTRIC AND OTHER LOGS RUN

Gamma-Neutron, Density and OK

27. WAS WELL CORED

NO

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10 3/4"	40.50#	278'	13 3/4	80 sacks	
7"	20.00	3200'	8 3/4	40 sacks	
4 1/2"	11.60	7441'	6 1/8	232 sacks	4150'

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number) 2 shots/ft.

1/2" jets from
7216 - 22' 6184 - 6196
6996 - 7016' 5034 - 5050
6754 - 6766'

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6180 - 7222	Water frac. (480 bbl.)
6754 - 7222	100 bbl. Diesel
5034 - 5050	Water frac. (160 bbl.)

33.* PRODUCTION

DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or shut-in)

DATE OF TEST HOURS TESTED CHOKE SIZE PROD'N. FOR TEST PERIOD OIL—BBL. GAS—MCF. WATER—BBL. GAS-OIL RATIO

FLOW. TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL—BBL. GAS—MCF. WATER—BBL. OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

H. Don Gungley

TITLE

Cons. Geologist

DATE

June 13, 1967

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional regulations and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 38, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

See attached "Well History and Geologic Report"

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
Navajo	Surface	343	Sandstone			
Kayenta	348	442	Red silty sandstone			
Wingate	442	985	Buff to red brown sandstone			
Chinle	985	1360	Varicolored shale - choc. rd. ss. and slat.			
Shinarump	1360	1423	White ss. and green shale w/uranium			
Moenkopi	1423	1990	Brick rd. to choc. rd. shale and slat.			
White Rim	1990	1960	White to tan calc. ss. w rd'g qtz grns.			
Organ Rock	1960	2760	Brick rd. to brn ang. ss. congl. and shale			
Rico	2760	3190	Brown silty lms., grn and gry sdy sh.			
Bermosa	3190	4740	Gry., pur., mica, sh., gry lms., and gry ss.			
Salt	4740	7150	Salt and anhydrite			
Pinkerton Trail	7150	7482	Anhydrite, Black shale, dolomite and lms.			
Molas	7482	7557	Red, grn, pur. sh and ark. ss.			
Mississippian	7557	7735	T.D. lms, blk oil shale, and gry-grn and rd. sh.			

JUN 21 1987

FORM OGCC-8-X
FILE IN QUADRUPLICATE

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION
348 EAST SOUTH TEMPLE
SUITE 301
SALT LAKE CITY, UTAH

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number Grays Pasture #1
Operator Rosen Oil Company Address 139 N. Mead, Wichita Phone 262-6434
Contractor Willard Pease Drlg Co. Address P.O. Box 548 Grd. J Phone 242-6912
Location NE 1/4 SW 1/4 Sec. 27 T. 27 N. R. 19 E San Juan County, Utah.
S W
Water Sands:

<u>Depth</u>		<u>Volume</u>	<u>Quality</u>
From	To	Flow Rate or Head	Fresh or Salty
1. 350'	440'	3-5 bbl/hr	Fresh
2. 1180'	1190'	6-7 bbl/hr	Fresh
3. 1280'	1350'	10-12 bbl/hr	Fresh
4. 2790'	2840'	7-8 bbl/hr	Salty
5. 3325'	3380'	20-30 bbl/hr	Salty

(Continued on reverse side if necessary)

Formation Tops: Navajo - Surface Shinarump - 1360' Rico - 2760'
Kayenta - 348' Moenkopi - 1423' Heimosa - 3190'
Wingate - 442' White Rim - 1890' Salt - 4740'
Chinle - 985' Organ Rock - 1960' Pinkerton Trail - 7150'
Molas - 7482'
Miss. - 7557'

Remarks:

- NOTE:
- (a) Upon diminishing supply of forms, please inform the Commission,
 - (b) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure, (See back of form).
 - (c) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

WELL HISTORY AND GEOLOGIC REPORT

ON

ROSEN OIL COMPANY

GRAYS PASTURE #1 WELL

SAN JUAN COUNTY, UTAH

June 15, 1967

By

W. Don Quigley

Consulting Geologist
Salt Lake City, Utah

WELL HISTORY
OF
ROSEN OIL COMPANY
GRAYS PASTURE #1 WELL

Location: SE. NE. SW. - Sec. 27, T. 27S., R. 19E., S1M. San Juan County,
Utah (2045' fr. W-line and 1613' fr. S-line)
Elevations: 6120' grd. and 6132' Derrick floor.
Spudded: Dec. 31, 1966
Plugged and Abandoned: June 4, 1967

Well History

Dec. 28 Moving-in rig - Snow and ice on roads.
Dec. 29 Moving-in rig and began rigging-up.
Dec. 30 Rigging-up.
Dec. 31 Finished rigging-up and spudded-in. Drilling 9-inch hole.
Drilled to 80 feet.
Jan. 1 Shut down for holiday.
Jan. 2 Drilled rat hole and mouse hole. Drilled to 195 feet.
Jan. 3 Drilled 9-inch hole to 285 feet - Reamed hole to 13³/₈". Ran
9 jts. of 10³/₄", 40.50 lb, casing and cemented with 80 sacks
of cement. Returns to the surface. Let cement set for 12
hours.
Jan. 4 Nippled up. Set air compressors and blew hole dry. Began
drilling ahead with 8³/₄" bits - below surface casing at
8:10 P.M. - Drilled to 373 feet. Encountered water at 355'
and used injector pump to unload hole.
Jan. 5 Drilled 299 feet (373' to 672 feet). Had to install injector
pump and began mist-drilling at 380 feet. Made round trip
for Bit #3. Bit #2 drilled 285' to 598'. Made 313 feet in
19 hours. Survey at 481' was 1°.
Jan. 6 Drilled 534 feet (672 to 1206 feet). Made round trip for
Bit #4 at 962 feet. Bit #3 drilled 364 feet in 15 hours.
Drilling in sandstone mostly. Encountered gray, bentonitic
shale and purple silty shale at 950'. Top of Chinle at about
970 feet. Survey at 753' was ½°.
Jan. 7 Drilled 407 feet (1206' to 1613'). Made round trip at 1303
feet for Bit #5. Bit #4 drilled 341 feet in 13 hours. En-
countered a 2" stream of fresh water at 1320 feet. Went into
Shinarump formation at 1365 feet. Some uranium minerals,
uraninite and carnotite, were evident in the sandstone and
green shale cuttings. Moenkopi at 1425'. Survey at 1235' was
1°. Survey at 1476' was 1°.
Jan. 8 Drilled 315 feet (1613' to 1928'). Made round trip at 1613'

- for Bit #6. Bit #5 drilled 310 feet in $14\frac{1}{2}$ hours. Drilled Moenkopi to 1900 feet and went into White Rim at about this depth. Survey at 1747' was $1\frac{1}{2}^{\circ}$.
- Jan. 9 Drilled 222 feet (1928' to 2150'). Made round trip for Bit #7 at 1928 feet. Bit #6 made 315 feet in $18\frac{1}{2}$ hours. Got stuck in hole at 2150' at 2:30 PM. Could get circulation, but couldn't rotate or move pipe up and down. Worked on pipe and tried to free it without success. Went into Organ Rock formation at about 1955'. Survey at 2019' was $1\frac{1}{2}^{\circ}$.
- Jan. 10 Trying to free stuck pipe. Pumped in 500 gals. of Diesel. Tried to inject air and pumped in fresh water with mud pump. Pumped pressure up to 1000 lbs, and broke circulation. Pressure dropped to 100 lbs. Pulled on pipe and finally pulled in two at 430' below D.F. Found one joint of aluminum drill pipe split. Ordered out fishing tools.
- Jan. 11 Waiting on fishing tools. Got hold of fish and pressured up to 600# with air but couldn't break circulation around fish. Pumped in water but couldn't break circulation with mud pump. Called McCullough to run free-point and back-off pipe. Found free-point below 1856' but couldn't back-off at 1856'.
- Jan. 12 Finally backed-off pipe at about 1700' and began to wash over.
- Jan. 13 Washing over fish.
- Jan. 14 Washing over fish.
- Jan. 15 Finished washing over fish and pulled fish out of hole.
- Jan. 16 Conditioning hole and mixing mud. Finally began drilling with Bit #8 at 8 PM, and drilled to 2193 feet, (43 feet drilled this date). Bit #7 made 222 feet in $12\frac{1}{2}$ hours. Drilling brick red silty sandstones and shales of Organ Rock.
- Jan. 17 Drilled 161 feet (2193' to 2354'). Made round trip at 2266' for Bit #9. Bit #8 made 116 feet in 14 hours. Drilling rate with mud slowed down to 5-10 minutes per foot. Still in Organ Rock. Survey at 2258' was $1\frac{1}{4}^{\circ}$.
- Jan. 18 Drilled 129 feet (2354' to 2483'). Made round trip at 2391' for Bit #10. Bit #9 made 125 feet in 16 hours. Still in Organ Rock.
- Jan. 19 Drilled 104 feet (2483' to 2587'). Made round trip at 2506' for Bit #11. Bit #10 made 115 feet in $14\frac{1}{2}$ hours. Still in Organ Rock. Survey at 2529' was $1\frac{1}{4}^{\circ}$.
- Jan. 20 Drilled 106 feet (2587' to 2693'). Made round trip at 2587' for Bit #12. Bit #11 made 81 feet in $14\frac{1}{2}$ hours. Made round trip at 2684 feet for Bit #13. Bit #12 made 97 feet in 18 hours. Still in Organ Rock.
- Jan. 21 Drilled 73 feet (2693' to 2766'). Made round trip at 2751' for Bit #14. Bit #13 made 67 feet in 15 hours. Drilling rate has decreased measurably. Now drilling at about 15 minutes/ft. Some zones drilled as slow as 30 minutes/ft. Went into Rico at about 2750 feet. Drilling rate decreased considerably at this point. Some gray and brown limestone was found in cuttings at this point.

- Jan. 22 Drilled 117 feet (2766' to 2883'). Made round trip at 2772' for Bit #15. Survey at 2772' was 1°. Bit #14 made 21 feet in 9½ hours. This was very hard and quartzitic. Drilling rate was real slow. Drilling rate increased appreciably at 2772' with the new bit. Made round trip at 2863 feet for Bit #16. Bit #15 made 91 feet in 13 hrs. Drilling in limestones, shales, and sandstones, with chert beds in Rico formation.
- Jan. 23 Drilled 100 feet (2883' to 2983'). Made round trip at 2939' for Bit #17. Bit #16 made 76 feet in 10½ hours. Stuck drill pipe at 2979 feet and took 6 hours to free pipe and mix mud. Still drilling in Rico formation.
- Jan. 24 Drilled 131 feet (2983' to 3114'). Made round trip at 3059 feet for Bit #18. Bit #17 made 120 feet in 14 hours. Still drilling in Rico.
- Jan. 25 Drilled 106 feet (3114' to 3200'). Made round trip at 3159' for Bit #19. Bit #18 made 100 feet in 14 hours. Encountered good hard limestone bed at 3190' which is probable top of the Hermosa formation. Decided to set the 7-inch intermediate casing at 3200 feet. Bit #19 made 41 feet in 10 hours.
- Jan. 26 Layed down drill pipe and ran 7", 20.00 lb. casing. Landed casing at 3199' and cemented with 40 sacks of cement and 1% calcium chloride.
- Jan. 27 Waiting on cement. Picked up 3½" drill pipe. Hooked up compressors and booster and began to blow hole dry.
- Jan. 28 Finished blowing hole dry and began drilling ahead with 6½" bit (Bit #20) at 3 A.M. Drilled 237 feet (3200 to 3437 feet). Made round trip at 3437 feet for Bit #21. Bit #20 made 237 feet in 15 hours. The air drilling increased the penetration rate to 3 min./ft.; but the dust quit at 3335 feet; and had to start injection pump and began mist-drilling at 3350 feet. The water at 3330 feet was salt water and had an estimated flow of about 20-30 bbl. per hour. From 3200 to 3250' oil stain and tarry oil were found in limestone and medium grained calcareous sandstone. Had yellow fluorescence and cut.
- Jan. 29 Drilled 113 feet (3437' to 3550'). Made round trip at 3483' for Bit #22. Bit #21 made 45 feet in 8 hours. Cleaning up hole was slow. Drilling in limestones, and sandstones of Hermosa formation.
- Jan. 30 Drilled 220 feet (3550' to 3770'). Made round trip at 3646' for Bit #23. Bit #22 made 163 feet in 15 hours. Still drilling in Hermosa formation.
- Jan. 31 Drilled 268 feet (3770' to 4038'). Made round trip at 4006 feet for Bit #24. Bit #23 made 360 feet in 22½ hours. Drilling in Hermosa formation.
- Feb. 1 Drilled 259 feet (4038' to 4297'). Made round trip at 4297 feet for Bit #25. Bit #24 made 291 feet in 24 hours. Still drilling in Hermosa formation at average rate of about 5 min/ft.
- Feb. 2 Drilled 268 feet (4297' to 4565'). Drilled steady all day at rate of 5 to 6 min/ft. Still in Hermosa. Went into Desert

- Creek zone at about 4500 feet. Had good oil stain and yellow fluorescence on vugular limestone and sandstone for 40 feet. Good cut and blue fluorescence.
- Feb. 3 Drilled 204 feet (4565' to 4769'). Made round trip at 4630 feet for Bit #26. Bit #25 made 333 feet in 28 hours. Salt was encountered at 4740 feet and a strong salt water flow began at about 4755 feet. Couldn't unload and clean up hole. Decided to convert to mud.
- Feb. 4 Began mudding-up. Pumped-in 500 barrel of Diesel-Invermul mud without returns. Tried Diesel and gel squeeze with partial success. Bit #26 made 139 feet in 11 hours.
- Feb. 5 Still trying to get circulation. Pumped in more Diesel and gel squeezes with only partial success. Lost circulation zones probably at 3300 feet, at 4500 feet, and at 4740 feet.
- Feb. 6 Finally got partial returns and began drilling ahead with Bit #27 at 10:30 A.M. Drilled to 4837 at 2 P.M. and lost circulation again. Mixed mud and got partial returns at 5 P.M. Drilled real slow - 30 min/ft. - from 4829' to 4854'. Drilled 85 feet (4769 to 4854 feet). Went into clastic zone at 4829 feet. No samples for last 100 feet.
- Feb. 7 Drilled 33 feet (4854 to 4887 feet). Made round trip at 4856 feet for Bit #28 and to mix mud. Bit #27 made 87 feet in 11 hours. Took 8 hours to get circulation and begin drilling again. Drilled to 4887' and lost circulation. Came out of hole to squeeze. Bit #28 made 31 feet in 5 hours. Fighting loss circulation.
- Feb. 8 Fighting loss circulation. Finally changed mud to salt base-gel mud and mixed lots of loss circulation material.
- Feb. 9 Mixing mud and regaining circulation. Cleaned up hole.
- Feb. 10 Finally regained partial circulation at 3 A.M. and began drilling ahead with Bit #29. Drilled real slow and had to wait on salt water. Mixed more mud. Drilled 38 feet (4887 to 4925'). Started out of hole for new bit.
- Feb. 11 Drilled 96 feet (4925 to 5021 feet). Finished trip for Bit #30. Bit #29 made 38 feet in 10³/₄ hours. Drilling in clastic zone and anhydrite, and some salt. Started out of hole for new bit.
- Feb. 12 Drilled 139 feet (5021 to 5160 feet). Finished trip for Bit #31. Bit #30 made 96 feet in 18¹/₂ hours. Went back into salt at 5089 feet. Oil stain was observed in some of the vugular anhydrite samples.
- Feb. 13 Drilled 135 feet (5160 to 5295 feet). Made round trip at 5176 feet for Bit #32. Bit #31 made 155 feet in 23¹/₂ hours. Hit another clastic zone at 5205'. This zone had tarry oil and good oil stain with fluorescence and good white cut on vuggy anhydrite. Real good oil show. Decided to run a drill-stem-test. Started out of hole for D.S.T. #1. Bit #32 made 119 feet in 15¹/₂ hours.
- Feb. 14 Ran D.S.T. #1. Tested interval 5205 to 5295 feet. Tool was open for 30 minutes and shut-in for 15 minutes. Had weak blow

- thru-out test. Recovered 20' of mud. Charts should tool was plugged with loss circulation material and test was a misrun. Went back in hole with Bit #33 and began drilling at 7:30 P.M. Drilled 45 feet (5295 to 5340 feet).
- Feb. 15 Drilled 242 feet (5340 to 5582 feet). Started out of hole for new bit (Bit #34). Bit #33 made 287 feet in 26 hours. At 5380 feet salt samples had good oil stain and cut with blue fluorescence. Might be oil in mud, but could also be fresh oil show. Drilling rate is about 3 to 4 min/ft.
- Feb. 16 Drilled 181 feet (5582 to 5763 feet). Finished trip for Bit #34. Drilling in salt, anhydrite, and black shale.
- Feb. 17 Drilled 157 feet (5763 to 5920 feet). Made round trip at 5785' for Bit #35. Bit #34 made 203 feet in 26½ hours. Still in salt section.
- Feb. 18 Drilled 140 feet (5920 to 6060 feet). Made round trip at 5970' for Bit #36. Bit #35 made 185 feet in 23½ hours. Still in salt section.
- Feb. 19 Drilled 240 feet (6060 to 6300 feet). Started out of hole for new bit (#37). Bit #36 made 330 feet in 28½ hours. Found good oil stain, fluorescence and cut on salt samples and vugular, sandy anhydrite from 6160 to 6200 feet. Good porosity and shows. Couldn't wash oil from samples due to complete saturation.
- Feb. 20 Drilled 340 feet (6300 to 6640 feet). Finished round trip at 6300' for Bit #37. Drilling in salt all day.
- Feb. 21 Drilled 255 feet (6640 to 6895 feet). Made round trip at 6776 feet for Bit #38. Bit #37 made 476 feet in 30½ hours. Drilling in salt all day.
- Feb. 22 Drilled 127 feet (6895 to 7022 feet). At 7022' started out of hole for Bit #39. Bit #38 made 246 feet in 26 hours. Hit clastic section at 6979 feet and drilling rate dropped to 20-30 min/ft. This could be top of Pinkerton Trail or lower Cane Creek section. Had some petroliferous limestone with slight oil cut at 6980'. Oil stain and good fluorescence on quartzitic sandstone.
- Feb. 23 Drilled 28 feet (7022 to 7050 feet). Finished trip at 7022' for Bit #39. Drilled very slow - about 30 min/ft. Drills like Pinkerton Trail. Started out of hole for new bit.
- Feb. 24 Drilled 75 feet (7050 to 7125 feet). Finished trip at 7050 feet for Bit #40. Bit #39 made 28 feet in 16½ hours. Portion from 7050 to 7064 feet drilled at a rate of 45 min/ft. At 7064' drilling rate increased to 4 min/ft. and samples indicated more salt. The above section was therefore lower Cane Creek rather than Pinkerton Trail.
- Feb. 25 Drilled 50 feet (7125 to 7175 feet). Drilled salt to 7151 feet and then drilling rate decreased to 40 min/ft., which probably indicates top of Pinkerton Trail. Made round trip at 7157 feet for Bit #41. Bit #40 made 107 feet in 21 hours. At 7150 black oil shale and saturated limestone were found in samples. Dolomite and anhydrite with shows also common.

- Feb. 26 Drilled 33 feet (7175 to 7208 feet). Drilled real slow - 30 to 45 min/ft. Made round trip at 7193 feet for Bit #42. Bit #41 made 36 feet in 21 hours. Still in hard dolomite, anhydrite and black shale with oil stain, fluorescence, and cut.
- Feb. 27 Drilled 33 feet (7208 to 7241 feet). Drilling hard and slow. Made round trip at 7233 feet for Bit #43. Bit #42 made 40 feet in 20¹/₄ hours.
- Feb. 28 Drilled 27 feet (7241 to 7268 feet). Drilling real hard and slow (30 to 45 min/ft). Made round trip at 7267 feet for Bit #44. Bit #43 made 34 feet in 22 hours.
- Mar. 1 Drilled 34 feet (7268 to 7302 feet). Made round trip at 7294' for Bit #45. Bit #44 made 27 feet in 14³/₄ hours. Still drilling in dolomite, anhydrite and black shale with oil shows.
- Mar. 2 Drilled 34 feet (7302 to 7336 feet). Made round trip at 7336' for Bit #46. Bit #45 made 42 feet in 22 hours.
- Mar. 3 Drilled 49 feet (7336 to 7385 feet). Started out of hole for new bit (#47). Bit #46 made 49 feet in 18 hours. Still drilling slow. Drilling in dolomite, anhydrite and shale. Had some brown limestone at 7375 feet with oil stain.
- Mar. 4 Drilled 41 feet (7385 to 7426 feet). Finished trip at 7385' for Bit #47. Drilling in gray and brown limestone and dolomite with oil stain and oil on fractures. Black oil shows.
- Mar. 5 Drilled 30 feet (7426 to 7456 feet). Made round trip at 7434' for Bit #48. Bit #47 made 49 feet in 24 hours.
- Mar. 6 Drilled 44 feet (7456 to 7500 feet). Made round trip at 7481' for Bit #49. Bit #48 made 47 feet in 22 hours. Encountered green, red, and gray dolomitic shale at about 7470 feet. Drilling rate increased to about 20 min/ft. at 7460 ft., which probably is the top of the Molas formation.
- Mar. 7 Drilled 51 feet (7500 to 7551 feet). Started out of hole for new bit at 7551 feet. Bit #49 made 70 feet in 27¹/₂ hours. Drilling in red, green, purple, and gray calcareous shales and bentonite of Molas formation. No shows. Lots of chert.
- Mar. 8 Drilled 32 feet (7551 to 7583 feet). Finished trip for Bit #50 at 7551 feet. Drilling hard and slow - 30 min/ft. Drilling rate decreased at 7565' which is probable top of Mississippian.
- Mar. 9 Drilled 21 feet (7583 to 7604 feet). Drilling very slow and hard - 45 min/ft. in places. Made round trip at 7590 feet for Bit #51. Bit #50 made 39 feet in 22 hours. More limestone in cuttings but still have black oil shale, green and red shale in samples. Good oil stain, saturation, cut, and fluorescence in cuttings.
- Mar. 10 Drilled 38 feet (7604 to 7642 feet). Drilled slow at about 40 to 45 min/ft. Still have good oil shows in samples. Some oil saturated sugary limestone was observed.
- Mar. 11 Drilled 3 feet (7642 to 7645 feet). Decided to run drill-stem-tests. Came out of hole and picked up test tool. Bit #51 made 55 feet in 31 hours. Tested interval 7592 to 7645 feet (53 ft).

- Tool open for $1\frac{1}{2}$ hours; shut-in for 30 minutes. Weak blow initial but increasing to good thru-out test. Recovered 720' of fluid (520 ft. of gas cut brackish water, and 200 ft. of black sulphur water). Final shut-in pressure was 2163 lbs.
- Mar. 12 Logging. Welex ran gamma-neutron and density logs on hole. Found bottom of hole at 7645 feet.
- Mar. 13 Finished logging and decided to run some more drill-stem-tests on zones that had oil shows and indicated some porosity on E-logs. Went in hole with test tool.
- Mar. 14 Ran D.S.T. #3. Interval tested was 7284 to 7352 feet. Ran straddle packer. Tool was open for 30 minutes and shut-in for 20 minutes. No blow-dead thru-out test. No recovery. Shut-in pressure 13.5 lbs. Broke packers loose and came up hole and straddled zone from 6980 to 7048 feet for D.S.T. #4. Tool open for $1\frac{1}{2}$ hours and shut-in for 45 minutes. Weak blow increasing slowly to good thru-out test. Recovered 60 ft. of slightly oil and gas cut drilling mud. Shut-in pressure was 256 lbs and steadily increasing - suggesting a partially blocked formation.
- Mar. 15 Ran D.S.T. #5. Tested interval 6100 to 6288 feet. (188 feet). Tool open for $1\frac{1}{2}$ hours; shut-in for 30 minutes initially, and shut-in 30 minutes finally. Steady blow immediate - decreasing to weak in 30 minutes. Recovered 120' of frothy drilling mud. Initial shut-in pressure was 419 lbs and steadily increasing. Tool was plugging intermittently and totally plugged after first 30 minutes. No final shut-in pressure. Decided to drill ahead. Drilled 15 feet (7645 to 7660 feet). Ran in Bit #52.
- Mar. 16 Drilled 61 feet (7660 to 7721 feet). Drilling at 20 to 30 min/ft. rate. Black oil shale, red and green shale, vugular limestone with oil stain and saturation, some oolitic limestone with oil stain and good cut, and chalky limestone were found in samples.
- Mar. 17 Drilled 14 feet (7721 to 7735 feet). Total depth 7735 feet. Bit #52 made 90 feet in 32 hours. Ran D.S.T. #6. Interval tested - 7645 to 7735 feet. Tool open for 1 hour; shut-in for 45 minutes. Strong blow immediate - continuing thru-out test. Recovered 4800 feet of black sulfur-brackish water. Final shut-in pressure was 2800# (est.).
- Mar. 18 Ran D.S.T. #7. Tested interval 6100 to 6289 feet. Tool open 50 minutes; shut-in for 30 minutes. Weak blow thru-out test. Recovered 140 feet of drilling mud. Final shut-in pressure was 270 lbs. Ran D.S.T. #8. Tested interval was 5200 to 5389 feet. Tool open for 45 minutes; shut-in for 30 minutes. Weak blow-dying in 20 minutes. Recovered 20 feet of drilling fluid. Final shut-in pressure was 135 lbs.
- Mar. 19 Decided to run casing and test zones thru casing. Ran 232 jts. of $4\frac{1}{2}$, 11.60# casing and landed at 7441 feet D.F. Cemented with 232 sacks cement. Plug down at 7:00 P.M. Bottom of hole

was plugged with 40 sacks of cement (from 7735 to 7485') before casing was run. It is planned to perforate and test favorable zones in the Paradox and Pinkerton Trail formations at a later date.

Mar. 20 Rigging down.
 Mar. 21 Rigging down and moving rig. Installed well head equipment.
 Mar. 22 Finished moving rig.
 Mar. 23 to May 21 Waiting on work-over rig and consent of interest owners to attempt completion of well.
 May 22 Moved in work-over rig - Barker Well Service.
 May 23 Rigged up. Started picking up tubing. Picked up about $\frac{1}{2}$ or 3600 feet of tubing.
 May 24 Picked up rest of tubing and went in hole to 7431 feet. Displaced mud with fresh water and cleaned out casing to 7431' down to float collar. Came out of hole with tubing and began logging hole with ϕ -1s log at 1700. Logged until 2400 hrs.
 May 25 Finished logging at 0400. Made up gun and shot first zone at 7216 to 7222' with 2 shots/ft. at 1000 hours. Went in hole with tubing, (open and without packer) and began swabbing at 1200 hours. Swabbed out fresh water - some real black and gassy. Swabbed down at 1830 hours and left stand overnight. No apparent fluid coming into hole.
 May 26 Ran swab in and found fluid level at about 100 ft. from bottom. No fluid came in overnight. Pumped in 30 barrel water (2000 feet) and came out of hole with tubing. Perforated next zone 6996 to 7016' with 2 shots/ft. at 1115 hours. Ran in hole with tubing and packer, (Halliburton RTTS Packer) and set packer at 6990'. Swabbed twice and recovered fresh water. Third swab was dry. Let set for 1 hour and swabbed again. Swab was dry. Broke packer loose and came up hole and set it at 6722'. Ran in with tubing gun and perforated 6754-66' with 2 shots/ft. Swabbed out fresh water with first swab and second swab was dry. Called for diesel but couldn't get it until morning. Quit at 1830.
 May 27 Ran tubing back to bottom and pumped in 40 barrel of Diesel to displace water over perforations. Then came back up and set packer at 6722 again. Pressured up on perfs and broke down at 3850#, pumped in 30 barrels diesel at 3800# at about 1 barrel/min. Left set for 30 minutes and then let fluid flow back. Flowed back about 12 barrels. Ran swab three times and then left set for 1 hour. Ran swab again and recovered about 300 feet of diesel. (Recovered about $27\frac{1}{2}$ barrels of fluid pumped in.) Pulled $26\frac{1}{2}$ stds of tubing (1722 feet) and then perforated 2 more zones (6184' - 6196' and 5034' - 5050') between 1430 and 1630 hours. Set packer at 4954 and swabbed twice - dry the second time. Pulled packer loose and ran in $19\frac{1}{2}$ stds and reset it at 6160. Pulled three swabs. Third one was dry. Left set over night.
 May 28 Pulled $19\frac{1}{2}$ stds and set packer at 4954' and pressured up with fresh water. Pressured up to 3200# and broke down. After

10 minutes, pressure dropped to 2500#. Pumped in 100 barrel of fresh water at this pressure. Waiting from 1000 hours to 1830 for other pump; finally went ahead and pumped in another 100 barrels of water. This batch started in at 2500# and then came down to 2000#. Left shut-in overnight (1730 hrs.). Pressure was still 1400#. Open valve and let flow back. Flowed for about 10 minutes - strong - then settled down to 1 inch stream for a little while. Then flowed by spurts with gas drive. Some gas behind water. Pulled packer loose and ran in 19½ stds and set packer at 6160'. Hooked both pumps on and began pumping in water. Pumped up to 3700# and then pumped in at 3500#. Final 10 minutes of pumping went in at 3100#. Pumped in 160 bbl. Left set for 5 hours and then pumped in another 160 bbls of water. Left shut-in overnight.

May 29 Well flowed back about 20 barrels of water over night. Began swabbing and made five runs - swabbing out about 100 bbls of the 320 barrels pumped in. Final swab was dry. Broke packer loose and set back 19½ stands, and reset packer at 4954 feet. Began swabbing all zones together. Made 3 runs - swabbing out about 60 barrel of slightly gas cut salty water. Fourth run was dry. Left set over night.

May 30 Made three runs with swab. Swabbed out about 30 barrels of slightly gassy black salty water. Fourth swab dry. Decided to plug and abandon. Crew went home at noon.

May 31 Called Colorado Cementers to bring cement and cement truck to plug well. Came out of hole with Halliburton packer and released Halliburton engineer. Went back in hole with tubing to 6250 feet. Pumped in first plug of 40 sacks for Plug #1 (6250' to 5950 feet). Started out of hole laying tubing down. McCullough couldn't get truck free to run free-point on casing until morning.

June 1 Layed down the rest of the tubing and ran free-point on casing. Found free-point at 4150 feet; shot-off casing at this point and pulled one joint. Ran Plug #2 of 30 sacks from 4150 to 3950 down casing. Displaced cement with water. Started pulling casing.

June 2 Pulled casing out to 3400 feet and ran Plug #3 down casing. Plug #3 had 50 sacks of cement and was placed from 3400 to 3100 feet across the bottom of the intermediate casing.

June 3 Layed down rest of casing. Stripped-off well head. Rigged down. Moved unit back to Grand Junction.

June 4

June 15, 1967

W. Don Quigley
W. Don Quigley
Consulting Geologist

WELL REPORT
ON
ROSEN OIL COMPANY
GRAYS PASTURE NO. 1 WELL
SAN JUAN COUNTY, UTAH

Introduction

The well was located on a geophysical anomaly which indicated that a large structural dome was present in the area. This dome probably influenced the Mississippian and lower strata as well as possible lower Pennsylvanian sediments. In addition to the structural significance of the test location, data developed through the drilling of nearby wells was also evaluated and used in the selection of the location. The Shell Murphy Range well in Section 18, T 28S., R 19E., had excellent oil shows in the top of the Mississippian and recovered some free oil on drill-stem-test. This well was about 500 feet lower structurally than the Pan American Murphy Range well located in Section 12, T 28S., R 18E. The Pan American well was located on the opposite side of a fault and recovered no free oil in a test of the Mississippian. The Husky Oil Company, Buck Mesa No. 1 well in Section 26, T 27S., R 18E., was about 1000 feet lower than the Pan American well and recovered only clear salt water from a test of the Mississippian. The British American well in Section 3, T 27S., R 19E., also recovered clear salt water in the Mississippian.

Based on the information developed by these wells, it was believed quite probable that a reef might be present in the area between the Shell Murphy Range well and the structural dome outline by the geophysical work. The well was located with this in mind rather than locating on top of the dome, in case the dome represented a basement piercement which could have penetrated the Mississippian sediments.

A complete well history has been given in the preceding pages. This history includes all the Drill-Stem-Tests and oil shows obtained in the drilling.

Drilling Techniques And Results

The history of wells drilled in the Big Flat-Murphy Range area indicates that the wells using normal drilling techniques were highly expensive and consumed considerable time. With this in mind, it was decided to utilize air as much as possible. It was planned to use air until quantities of water prevented its further use, at which point the air would be converted to a light weight mud, and the hole deepened to the top of the Hermosa formation where a string of 7-inch intermediate casing would be set and cemented. Air would then again be used to drill through the Hermosa since

the Hermosa drills extremely hard and slow. Use of air would continue again until prevented by large quantities of water at which point it would be converted to a light weight mud. This plan was followed and proved to be beneficial in parts and detrimental in others. For instance, the stuck pipe at 2150 feet was the result of improper cleaning of the hole by the air. The extensive loss circulation problems encountered at 4769 feet was also due in part to the conversion from air to mud. Establishing mud circulation in a hole after air has been used can be a real problem. This problem in the Grays Pasture #1 well was made worse by attempting to use a Diesel Invermal mud, which has very limited carrying powers for loss circulation material, and does not build any mud cake on the walls of the hole. Considerable expense was expended in trying to use this type of mud in establishing circulation. The least expensive mud possible should have been used to establish circulation and then this cheap mud could have been converted later to a more desirable drilling fluid.

The large quantity of loss circulation material carried in the mud prevented taking Drill-Stem-Tests as soon as a zone containing oil shows was penetrated. D.S.T. #1 of the interval 5205 to 5295 feet resulted in plugging the tool by loss circulation material. Consequently, zones were not tested until many days after they had been penetrated and were thus probably contaminated and failed to react favorably to a Drill-Stem-Test,

A good many Drill-Stem-Tests (8 in all) were run after the Mississippian formation had been reached. Results of all of these tests were unsatisfactory; even though the electric logs, as well as the oil shows obtained while drilling, indicated highly favorable zones. Consequently, it was necessary to run casing and test through the casing to evaluate these zones completely. Again time was against successful completion of the operation. A period of two months lapsed between the running of the casing and testing of the zones. Complete contamination and sealing off of the zones took place in this interval of time. The results of the testing and completion work was therefore unsatisfactory and unsuccessful.

In order to keep the mud weight light and to reduce the water loss, crude oil was applied to the mud. Approximately 15% oil was carried in the mud most of the time. This made an excellent drilling fluid when mixed with salt-gel, salt water and starch. Water loss was below 2 cc/ $\frac{1}{2}$ hr. most of the time. Penetration rate was also probably improved appreciably. There was one marked disadvantage, however; the oil made it impossible to use a gas detector on the mud stream to help evaluate the oil shows. The continual presence of the oil in the mud made it also difficult to determine when new oil from the formation entered the mud stream. The mud oil also saturated the cuttings to some extent making determination of bona fide saturation more difficult.

A record of the bits used and their penetration rate, and amount of hole made with each bit is attached to this report.

Oil Shows And Significance

Hermosa Formation

The first oil show obtained in the well was found in the interval 3190 to 3260 feet. This zone lies at the top of the Hermosa formation. The oil show consisted of tarry oil saturation in medium-grained, calcareous, gray, sandstone, and limestone, which gave a yellow-green fluorescence and good cut. Considerable oil stain was evident in the samples. This portion of the hole was drilled with air and since there was no hydrostatic head, any live hydrocarbons should have entered the well bore. It is believed that this zone carried salt water along with the oil shows.

The second oil show was found in the Desert Creek zone of the Hermosa formation in the interval 4510 to 4570 feet. This show consisted of oil stain and partial saturation of light gray, vugular limestone. The oil show gave a yellow, dull fluorescence and cut. The lower portion of the zone contained quartzitic, calcareous sandstone with good saturation giving blue fluorescence and cut. Again this zone was open to the well bore without any hydrostatic head and hydrocarbons were free to enter the hole.

Paradox Formation

The next oil show of significance was found in a clastic zone in the salt section in the interval 5205 to 5270 feet. The oil show consisted of brown, tarry oil on salt crystals and oil stain and saturation in vuggy anhydrite. This show gave a light blue fluorescence and cut. The zone was tested; however, the test tool plugged with loss-circulation material and was unsuccessful.

The next oil show was found in the salt in the interval 5380 to 5420 feet. Salt crystals with oil stain and saturation were observed in the cuttings. A light blue fluorescence and cut were observed. This could have been oil from the mud but appeared to be more dominant than usual.

The next prominent oil show was again in the salt section in the interval 6160 to 6200 feet. Good oil stain, saturation, fluorescence, and cut were observed on salt crystals and sandy anhydrite. The samples gave off a strong oil odor and good porosity was evident.

Another oil show was observed in the clastic section, commonly known as lower Cane Creek, near the bottom of the salt section. This zone was in the interval 6980 to 7070 feet. Dark, gray, dirty, petroliferous limestone and anhydrite with slight fluorescence and cut were observed in the cuttings. Also, hard, quartzitic sandstone with oil stain and good fluorescence were present. Some black shale with petroliferous saturation and odor along with some saturated sandy conglomerate were contained in the cuttings. Porosity in this zone was probably limited and was not readily apparent in the cuttings.

Pinkerton Trail

The entire Pinkerton Trail section from 7150 to 7470 feet contained abundant oil shows. These oil shows were found in brown dolomite with pinpoint porosity and saturated with oil. Black oil shale with good odor and cut was present. Some of the shows gave yellow fluorescence and cut; others gave a light blue fluorescence and cut. Vugular anhydrite with oil saturation and stain was present.

Mississippian Formation

Excellent oil shows were observed in the top of the Mississippian from 7565 to 7700 feet. Brown limestone with oil stain, cut and fluorescence plus black oil shale, as well as sugary dolomite with oil saturation, oolitic limestone with oil saturation, and vugular limestone with strong oil and gas odor were all present in the cuttings. The upper part of the Mississippian from 7565 to 7645 feet had limited porosity. This zone was tested and only 720 feet of fluid (520' of gas cut brackish water and 200' of black sulphur water) were recovered. This zone had a final shut-in pressure of 2163 lbs. The portion of the Mississippian drilled from 7645 to 7735 feet had much better porosity but the oolitic limestone appeared to have some black sulphur staining, suggesting that this section might have sulphur water. A subsequent test of this zone resulted in recovering 4800 feet of black sulphur brackish water. An estimated shut-in pressure of 2800 lbs. was obtained.

The most significant thing about the oil shows in the Mississippian was the abundance of black oil shale. This oil shale had a strong gas odor and tasted of raw gasoline. The presence of this shale suggests a lagoonal or near shore-line type of environment. The well was definitely located in a reef area and there is considerable evidence of potential hydrocarbon accumulations being somewhere in the nearby area. Subsequent test wells in the area will undoubtedly encounter a major Mississippian field.

Formation Tops

The formation tops observed in the drilling of the Grays Pasture #1 well are as follows:

Formation Tops and Thickness

<u>Formation</u>	<u>Depth</u>		<u>Mean Sea Elev.</u>	<u>Thickness</u>
	<u>Sample</u>	<u>Electric Log</u>		
Navajo	Surface	Surface	+6131'	348'
Kayenta	370'	348'	+5783'	94'
Wingate	480'	442'	+5689'	543'
Chinle	970'	985'	+5146'	375'

Shinarump	1365'	1360'	+4771'	63'
Moenkopi-Cutler	1425'	1423'	+4708'	467'
White Rim	1900'	1890'	+4241'	70'
Organ Rock	1955'	1960'	+4171'	800'
Rico	2750'	2760'	+3371'	430'
Hermosa	3190'	3190'	+2941'	1550'
Salt	4740'	4740'	+1391'	2410'
Pinkerton Trail	7150'	7150'	-1019'	332'
Molas	7470'	7482'	-1351'	75'
Mississippian	7565'	7557'	-1426'	Drilled 178'
Total depth	7735'		-1604'	

List of Drill-Stem-Tests

D.S.T. #1 Date - February 14, 1967

Test interval: 5203' - 5295' (92 ft.) (Paradox Salt)
 Tool open: 30 minutes
 Tool closed: 15 minutes
 Blow: Weak blow thru-out test
 Rec.: 20 feet of Drilling mud
 Pressures: I.H.P. - 2840#; I.F.P. - 85#; F.F.P. - 90#; S.I.P. - 145#; F.H.P. - 2840#.
 Remarks: Tool plugged with loss-circulation material and was considered as a misrun.

D.S.T. #2 Date - March 11, 1967

Test interval: 7592' - 7645' (53 ft.) (Mississippian)
 Tool open: 1½ hours
 Tool closed: 30 minutes
 Blow: Weak blow initial-increasing to good thru-out test.
 Rec.: 720' of fluid (520' of gas cut brackish salt water and 200' of black sulphur water)
 Pressures: I.H.P. - 4322#; I.F.P. - 67.6#; F.F.P. - 270#; S.I.P. - 2163#; F.H.P. - 4320#.
 Remarks: A few flecks of oil were present on first fluid recovered.

D.S.T. #3 Date - March 14, 1967

Test interval: 7284' - 7352' (68 ft.) (Pinkerton Trail)
 Tool open: 30 minutes
 Tool closed: 20 minutes
 Blow: No blow - dead thru-out test.
 Rec.: None
 Pressures: I.H.P. - 4146#; I.F.P. - 13½#; F.F.P. - 13½#; S.I.P. - 13½#; F.H.P. - 4140#.
 Remarks: This was a straddle packer test and may have been a misrun.

D.S.T. #4 Date - March 14, 1967

Test interval: 6980' - 7048' (68 ft.) (Cane Creek zone)
 Tool open: 1½ hours
 Tool closed: 45 minutes
 Blow: Weak blow increasing slowly to good thru-out test.
 Rec.: 60 feet of slightly oil and gas cut drilling mud.
 Pressures: I.H.P. - 3940#; I.F.P. - 27.0#; F.F.P. - 27.0#; F.F.P. - 27.0#; S.I.P. - 256.8# and increasing; F.H.P. - 3794#.
 Remarks: The formation was probably blocked. The shut-in pressure curve had a steady increase and slope.

D.S.T. #5 Date - March 15, 1967

Test interval: 6100' - 6288' (188 ft.) (Paradox salt)
 Tool open: 1½ hours
 Tool closed: Initial - 30 minutes and Final - 30 minutes.
 Blow: Steady blow immediate - decreasing to weak in 30 minutes.
 Rec.: 120 feet of frothy drilling mud (white residue in fluid)
 Pressures: I.H.P. - 3376#; I.S.I.P. - 419# and increasing; I.F.P. - 67#; No final shut-in pressure.
 Remarks: Misrun - Tool was intermittently plugging and completely plugged after initial shut-in period.

D.S.T. #6 Date - March 17, 1967

Test interval: 7645' - 7735' (90 ft.) (Mississippian)
 Tool open: 1 hour
 Tool closed: 45 minutes
 Blow: Strong blow immediate and continuing thru-out test.
 Rec.: 4800 feet of black sulphur-brackish water
 Pressures: I.H.P. - 4329#; I.F.P. - 534#; F.F.P. - 2400#; S.I.P. - 2800# (est.); F.H.P. - 4320#.
 Remarks: Regular anchor used on this test.

D.S.T. #7 Date - March 18, 1967

Test interval: 6100' - 6289' (189 ft.) (Paradox salt)
 Tool open: 50 minutes
 Tool closed: 30 minutes
 Blow: Weak blow thru-out test.
 Rec.: 140 ft. of drilling fluid
 Pressures: I.H.P. - 3497#; I.F.P. - 81#; F.F.P. - 270#; S.I.P. - 270#; F.H.P. - 3490#.
 Remarks: Hook wall anchor and straddle packers used.

D.S.T. #8 Date - March 18, 1967

Test interval: 5200' - 5389' (189 ft.) (Paradox salt)
 Tool open: 45 minutes
 Tool closed: 30 minutes
 Blow: Weak blow - dying in 20 minutes
 Rec.: 20 feet of drilling fluid
 Pressures: I.H.P. - 2823#; I.F.P. - 108#; F.F.P. - 120#; S.I.P. - 135#; F.H.P. - 2820#
 Remarks: Hook wall anchor and straddle packers used. Formation was blocked or dead.

List of Perforated Intervals

Perforated with 2 shots/ft. with $\frac{1}{2}$ " jet shots

<u>Interval</u>	<u>Test and Results</u>
7216' - 7222' (6 feet)	Swab tested and fracture treated with 30 barrel of Diesel - no recovery - dead - no shows.
6996' - 7016' (20 feet)	Swab tested first without results. Fractured with 30 barrel of Diesel with no results. Fracture-treated with 160 barrels of fresh water. Swabbed only portion of fluid back. Very slight gas cut to last portion of fluid.
6754' - 6766' (12 feet)	Swab tested and fracture treated with 160 barrel of fresh water. Failed to free zone. Swabbed back only portion of fluid. (This zone was treated along with bottom two zones open.)
6184' - 6196' (12 feet)	Swab tested initially without results. Set packer above zone, treated with over 320 barrel of water. Swabbed back only portion of fluid. (This zone was treated along with bottom zones.)
5034' - 5050' (16 feet)	Swab tested without any results. Fracture treated with 200 barrel of water. Flowed back about 60 barrels of salty water with some gas pockets near end of flow.

The testing and fracture treatment were unsuccessful. All zones appeared to be thoroughly blocked. Further and much more expensive treatment did not seem warranted.

Geological Results

The Grays Pasture #1 well contributed considerable information to the geo-

logic data on the area. The structural elevations observed at the tops of the formations above the top of the Rico were quite compatible with adjacent wells; however, the depths to the formation tops were approximately 250' deeper than had been estimated. This was primarily due to the thicker section of Navajo remaining at the surface. The thickness of the formations was quite regular down to the top of the Rico. The Rico formation was approximately 100' thicker in the subject well than in the Shell Murphy Range well; and the Hermosa, down to the top of the salt, was approximately 200' thicker in the subject well. The thickness of the Hermosa, down to the top of the salt, was almost identical to the thickness found in the British American Ormsby well to the north.

The salt section from 4740 to 7150 feet was approximately 1000 feet thicker in this well as compared to the Shell Murphy Range well; but was approximately 600 feet thinner than the section found in the British American Ormsby well. The subject well contained two salt beds and two clastic zones at the top of the section which were not present in the Shell Murphy Range well and one additional salt bed and clastic zone at the bottom; however, the well contained approximately the same number of salt beds as the British American Ormsby well but the beds were much thicker in the B. A. Ormsby well. The B. A. Ormsby well also crossed a fault near the top of the salt section and repeated a portion of the upper clastic zones.

It is quite obvious from this comparison that the salt basin was gradually migrating northward as time lapsed during Middle Pennsylvanian time. However, the salt sea did progress southward in Early Pennsylvanian time for a short period as indicated by the missing salt beds at the bottom of the section in the Shell Murphy Range well. Intermittent regression and progression of the salt sea did give rise to variation to the thicknesses of the salt beds and probably provided periods of erosion of previously deposited salt beds.

The Pinkerton Trail section in the subject well was approximately 50 feet thinner than in the Shell Murphy Range well but was equal in thickness to that found in the B. A. Ormsby well. The Molas was comparable in all three wells. The decrease thickness of the Pinkerton Trail in the Grays Pasture well would suggest a gradual rising positive area during deposition. This is also confirmed by the unusual lithology of the Upper Mississippian in the well. Considerable green and red shale along with black oil shale were present in the cuttings. The normal limestone-dolomite section was missing. Considerable conglomeratic quartz fragments were also present. The lithology tends to confirm the presence of the dome to the east of the location.

There can be no doubt from the prolific oil shows found in the well that the location is near or in the area of hydrocarbon accumulations. The complex salt compounds present in the formations probably react unfavorably with many of the compounds found in the mud and cement used to drill and complete the well. These reactions are unfavorable and develop barriers which are difficult to overcome in subsequent testing and completion operations.

Considerable money has been spent by major companies endeavoring to break down these barriers without success. It is extremely important and essential to employ different drilling techniques which tend to minimize such problems.

The data developed by the subject well definitely proves the presence of a major structural anomaly in the area and there is every reason to believe that a Mississippian field, as well as possible hydrocarbon reservoirs in the salt section, are present in the area. These data suggest that the faulting is more complex and numerous than previously believed. It is evident that more detailed geophysical work will have to be employed to fully outline the faults; and hence, to select a slightly more favorable location. It is also possible that evidence can be found which would provide clues as to the location of the potential Mississippian reef.

Conclusions

The Grays Pasture #1 well located on the Grays Pasture structural dome was an important and geologically sound test. The geologic reasons and prospective objectives contemplated prior to the test were varified. Unfortunately, the salt section was much thicker than anticipated; thus, necessitating a much deeper hole than had been predicted. This increase in depth, however, did not destroy the potential nature of the Mississippian rocks.

The nature and number of oil shows in the cuttings attested to the favorable nature of the lithology of the area and location of the well. The electric logs also tended to confirm the favorable nature of many of the zones in which oil shows were observed. In fact, the electric logs indicated that some of these zones were identical to the section found in wells completed in the area for an initial production of more than 600 barrels of oil per day. Consequently, it was deemed necessary to run casing to fully test the zones after the logs had been run and studied. There is ample reason to believe that the hydrocarbons are still present in the area and could have been tapped by the subject well except for chemical and mechanical difficulties. Experience has shown that efforts in the past to overcome these difficulties once they occur are usually unsuccessful and cost considerable amounts of money. It was hoped that by using different drilling and completion techniques that these difficulties would be eliminated. The Diesel and fresh water fracture treatment used in the completion of the well were different than normally used and could have been successful in overcoming some of the difficulties experienced by previous operators in the area. It is fairly obvious that every form of fluid which could possibly contaminate the section must be eliminated in the drilling and completion techniques. The technique probably having the best chances of success would be to set intermediate casing through the water zone at the top of the salt section and drill the rest of the hole with air. When production was encountered, a liner could be set on bottom without cementing. The well could then be completed naturally.

The potential nature of the Mississippian formation is by far the most significant in the area; and the Rosen Grays Pasture #1 well did much to further prove this potential. The best location for a subsequent well is still questionable. It is undetermined as to whether the subject well was located too close to the dome or too far away to encounter the probable reef. Additional geophysical work could provide information which would assist in this decision.

W. Don Quigley
W. Don Quigley
Consulting Geologist

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN THE STATE*
(Other instructions on re-
verse side)State
Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-0141867

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Grays Pasture

9. WELL NO.

91

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 27, T 27S., R 19E.

S.L.M.

12. COUNTY OR PARISH 13. STATE

San Juan

Utah

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1.

OIL WELL ☒ GAS WELL ☐ OTHER

2. NAME OF OPERATOR

Reasen Oil Company

3. ADDRESS OF OPERATOR

139 N. Mead St., Wichita, Kansas 67202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)At surface SE. NE. SW. - Sec. 27, T 27S., R 19E., S.L.M.
2045' from W-line, and 1613' from S-line.

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6120' grd. and 6132' D.P.

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-
nent to this work.)*Above well has been plugged and abandoned in the following manner on June 2 thru
June 4:

1. A 40 sack plug was installed inside the 4 1/2" casing from 6250' to 3950'. This plug was pumped down the tubing prior to shooting-off the casing. The plug shut-off the lower perforations.
2. A free-point was run on the casing and the free-point found at 4150'. The casing was severed at this point and 1 joint was pulled. A 30-sack plug was pumped down the casing at this point, from 4150 to 3950'.
3. The casing was pulled to 3400 feet and a 50-sack plug was installed across the bottom of the intermediate 7" casing from 3400 to 3100 feet. The well head was removed and a plate installed across the top of the surface casing. The location will be cleaned and levelled in the near future.

18. I hereby certify that the foregoing is true and correct

SIGNED

St. Mon Gingles

TITLE

Consulting Geologist

DATE

June 15, 1967

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR Rosen Oil Company		8. FARM OR LEASE NAME Grays Pasture
3. ADDRESS OF OPERATOR 605 Sutton Place, Wichita, Kansas 67202		9. WELL NO. No. 1
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface SE.NE.SW.-Sec.27, T.27 S., R.19 E., S.L.M. 2045' from W-line & 1613' from S-line.		10. FIELD AND POOL, OR WILDCAT Wildcat
14. PERMIT NO.		11. SEC., T., R., S., OR BLM. AND SURVEY OR AREA Sec. 27, T. 27 S., R. 19 E., S.L.M.
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6120' grd. & 6132' D.F.		12. COUNTY OR PARISH, IS. STATE San Juan Utah

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	□	PULL OR ALTER CASING	□
FRACTURE TREAT	□	MULTIPLE COMPLETE	□
SHOOT OR ACIDIZE	□	ABANDON*	□
REPAIR WELL	□	CHANGE PLANS	□
(Other)		(Other)	X

(NOTE: Report results of multiple completion or Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

It is planned to complete the abandonment of the above well within the next few days. The Park Service finally decided that they did not want to take the well over for a water well. The well will be abandoned as follows:

1. As much of the seven inch casing will be pulled as possible. The cement top should be around 2800'.
2. Place a 30-sack plug across the bottom of the surface casing: from 300' to 250'.
3. Place a well identification marker at the surface and cement with 5 sacks of cement.

The location has already been cleaned and levelled.

18. I hereby certify that the foregoing is true and correct

SIGNED W. Don Quigley TITLE Consulting Geologist DATE Oct. 12, 1967

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPlicate
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-0141867

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Grays Pasture

9. WELL NO.

No. 1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR B.L.K. AND
SURVEY OR AREASec. 27, T. 27 S., R. 19
E., S. L. M.

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL ☒ GAS ☐ OTHER ☐
WELL WELL

2. NAME OF OPERATOR

Rosen Oil Company

3. ADDRESS OF OPERATOR

605 Sutton Place, Wichita, Kansas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*

See also space 17 below.)

At surface

SE. NE. SW. Sec. 27, T. 27 S., R. 19 E., S. L. M.
2045' from W-line & 1613' from S-line

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, CR, etc.)

6120' grd., 6132' D.F.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

Cleaning location

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The location and site of the above well has been cleaned and levelled in accordance with U. S. G. S. request dated June 7, 1968. The Park Ranger supervised the work and has approved the final levelling.

Please release the bond as soon as possible. ✓

18. I hereby certify that the foregoing is true and correct

SIGNED

W. Don Gungley

TITLE

Consulting Geologist

DATE

July 3, 1968

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY: